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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,175

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EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1791

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,175	Applicant(s) NAGAI, SYU	
	Examiner Steven D. Maki	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3) **Claims 1-5, 8-9 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over by Japan 407 (JP 07-223407).**

Japan 407 discloses a pneumatic tire comprising a carcass, belt 8, belt reinforcing layer 9, shoulder part reinforcing layers 10 and a tread comprising grooves wherein the right side (inside) of the tread has a larger negative ratio (e.g. 42%) than the negative ratio (e.g. 34%) of the left side (outside) of the tread. The tire has a size such as 235/45R17. Japan 407 teaches shifting the center of the belt to the right side of the tread which has the larger negative ratio to reduce conicity so as to improve straight steering stability. See abstract, figures 1, 2 and paragraphs 10 and 11.

Claims 1, 3, 8, 9 and 12 are anticipated by Japan 407. Since the belt is shifted to the right side of the tread which has a larger negative ratio, the belt width Ba on the higher negative ratio side is greater than the belt width Bb on the lower negative ratio side as set forth in claim 1. As to claim 3, Japan 407 teaches a negative ratio difference

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of 8%. As to claims 8 and 9, note shoulder part reinforcing layers 10. In claim 12, the claimed widths W_a and W_b are inherent in Japan 407's tire having the disclosed asymmetrically positioned belt.

With respect to B_a (wider width portion of belt on higher negative ratio side) being 100-110% of T_{in} (grounding width from EP to grounding end inside of a camber), Japan 407 teaches that the belt is shifted to the larger negative ratio side by a distance B which is preferred to be 1.5 mm or less. Hence, Japan 407 teaches providing a wider width portion of belt on the higher negative ratio side. The width is wider by a preferred amount of 1.5 mm or less. Claim 1 describes "camber" but fails to recite a numerical range for the camber. The width T_{in} is dependent on the camber of the tire. The claimed tire can be mounted with a camber such that width T_{in} has a smaller or larger value relative to the width T_{in} of the tire which is not mounted with camber. The subject matter at the last three lines of claim 1 is sufficiently broad, therefore, to read on a width B_a for a shifted belt which is wider by a preferred distance B of 1.5 mm or less. It is emphasized that "camber" in claim 1 relates to intended use of the tire and that claim 1 fails to limit the recited "camber" using a numerical angle range. In any event: it would have been obvious to one of ordinary skill in the art to provide Japan 407's tire such that $B_a = 100-110\% T_{in}$ since Japan 407 teaches shifting a belt toward the larger negative ratio side of a tire tread by a distance B to improve straight running stability.

Japan 407 does not anticipate claims 2, 4 and 5. However: As to claim 2, it would have been obvious to one of ordinary skill in the art to shift Japan 407's belt such that width B_a (inside / higher negative ratio) = 104-120% of width B_b (outside / lower

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negative ratio) since Japan 407 teaches shifting the center of the belt to the right side of the tread which has the larger negative ratio to reduce conicity so as to improve straight steering stability. The optimum shift of the belt, and consequently the size of the belt on both sides of the equatorial plane, would have been obvious and could have been determined without undue experimentation in light of Japan 407's teaching to shift the center of the belt so as to improve straight steering stability. As to claims 4 and 5, it would have been obvious to one of ordinary skill in the art to provide the inside shoulder section with a radius R_a greater than the radius R_b of the outside shoulder section as claimed since it is taken as well known / conventional per se to form round shoulders for a tire having an asymmetric tread such that the radius of curvature of one shoulder is greater than the radius of curvature of the other shoulder.

4) Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 407 as applied above and in view of Matsumoto (US 2002/0100526) and Baumhofer et al (US 6,439,286).

Japan 407 is discussed above. As to claims 6 and 7, it would have been obvious to one of ordinary skill in the art to provide Japan 407's tread such that pitch P_a of widthwise grooves at the inside half of the tread is 1.5-2 times pitch P_b of widthwise grooves at the outside half of the tread since Matsumoto and Baumhofer et al, also directed to an asymmetrical tread, suggests using a larger spacing of lateral grooves for the inside half of a tread compared with the spacing of lateral grooves for the outside half of the tread. Matsumoto teaches that circumferentially long blocks 5a (delimited by the lateral grooves having the above noted larger spacing) and the circumferentially

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shorter blocks 5b provide the inside of the tread with higher rigidity in the circumferential direction and the outside of the tread with higher rigidity in the axial direction to improve over turning performance. Baumhofer et al's asymmetrical tread pattern is generally similar to that of the asymmetrical tread pattern shown in figure 1 of Japan 407. In Baumhofer et al, the lateral grooves with the larger spacing at the inside of the tread are lateral grooves 11.

5) Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 407 as applied above and in view of Japan 511 (JP 2002-225511).

Japan 407 is discussed above. As to claim 10, it would have been obvious to one of ordinary skill in the art to provide the shoulder belt layer 10 at the outside shoulder of Japan 407's tire with cord of a higher tensile rigidity than that for the inside shoulder belt layer 10 since Japan 511 shows forming side belt layers 18u, 18s for the shoulders of an asymmetric tread of a tire having riding comfort, steering stability and anti-wear performance such that the belt layer 18s at the lower negative ratio outside half of the tread is wider than the belt layer 18u at the higher negative ratio inside half. One of ordinary skill in the art would have readily appreciated that the wider belt layer 18s is for improving rigidity at that location. Since it is well known in the tire art per se to improve rigidity of belt layer using higher tensile rigidity cord, one of ordinary skill in the art would have found it obvious to implement Japan 511's teaching to improve rigidity at the outside shoulder of the tire by using higher rigidity cord in the belt layer 10 at the outside of Japan 407's tread.

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6) Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 407 as applied above and in view of Mezzanotte (US 4,848,429) and Japan 105 (JP 62-059105).

Japan 407 is discussed above. As to claim 11, it would have been obvious to one of ordinary skill in the art to provide the inside half of Japan 407's tread (the side with the higher negative ratio) with a higher modulus and lower tan delta than the outside half of the tread since (1) Mezzanotte, also directed to an asymmetric tread pattern having a higher negative ratio on the inside half of the tread, suggests providing the inside half of the tread with a high rebound (low tan delta) and the outside region of the tread with a low rebound (high tan delta) to improve grip on snow / frozen terrain and road holding on dry and wet roads and (2) Japan 105 suggests forming one ground contacting side of the side of a tread with a higher storage modulus rubber to reduce abrasion (abstract, e.g. figure 8).

7) Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 407 as applied above and in view of Mezzanotte (US 4,848,429).

Japan 407 is discussed above. As to claim 13, it would have been obvious to one of ordinary skill in the art to provide the inside half of the tread (the higher negative ratio side) with the thicker skid base gauge since Mezzanotte, also directed to an asymmetric tread pattern having a higher negative ratio on the inside of the tread, suggests providing the inside half of the tread with a thicker tread (figure 1) so that the thickness of tread with high hysteretic loss for good road holding on dry and wet roads can be minimized.

Remarks

8) Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 6-24-08 have been fully considered but they are not persuasive. Attention is directed to the comments in the body of the rejection regarding Ba = 100-110% Tin.

9) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10) No claim is allowed.

11) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
September 15, 2008